

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference 2003603 | FOR FURTHER ACTION | | See Form PCT/IPEA/416 |
| International application No. PCT/ES2003/000554 | International filing date (<i>day/month/year</i>) 28 October 2003 (28.10.2003) | Priority date (<i>day/month/year</i>) | |
| International Patent Classification (IPC) or national classification and IPC H01H 37/46 (2006.01), H01H 37/04 (2006.01), G08B 17/06 (2006.01) | | | |
| Applicant NAKAGAWA ESPANA, S.A. | | | |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. (*sent to the applicant and to the International Bureau*) a total of 7 sheets, as follows:

sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

| | |
|--|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application |

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|---|--|
| Date of submission of the demand 24 August 2005 (24.08.2005) | Date of completion of this report 17 February 2006 (17.02.2006) |
| Name and mailing address of the IPEA/ES | Authorized officer |
| Facsimile No. | Telephone No. |

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- The international application as originally filed/furnished

the description:

pages _____ 3,5 _____, as originally filed/furnished
 pages* _____ 1,2,4,6,7 _____ received by this Authority on 14 February 2006 (14.02.2006)
 pages* _____ received by this Authority on _____

the claims:

pages _____, as originally filed/furnished
 pages* _____, as amended (together with any statement) under Article 19
 pages* _____ 8,9 _____ received by this Authority on 14 February 2006 (14.02.2006)
 pages* _____ received by this Authority on _____

the drawings:

pages _____ Figures 1-4 (pages 1-3) _____, as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

- a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
- the claims, Nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, Nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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| International application No. PCT/ES 03/00554 |
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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|---------------------|-----|
| Novelty (N) | Claims | 1-10 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 5, 6, 9, 10 | YES |
| | Claims | 1, 2 (+) 4, 3, 7, 8 | NO |
| Industrial applicability (IA) | Claims | 1-10 | YES |
| | Claims | | NO |

2. Citations and explanations

Reference is made to the following documents:

- D01: US 4504814 A, 12 March 1985
- D02: JP 55126918 A, 1 October 1980
- D03: DE 1158192 B, 28 November 1963
- D04: GB 968111 A, 26 August 1964
- D05: US 5416970 A, 23 May 1995

Documents D01, D04 and D05 have been cited both in the international search report and in the written opinion (ISA 408); document D02 was cited in the international search report and document D03 was cited in the written opinion, following additional search.

Both D01 and D02 disclose all the features in the preamble of claim 1; additionally, both disclosure a structure provided with an electric terminal and located inside the cavity formed by the two valves, which are coupled by bolts. D01 discloses the arrangement of an electric terminal in one of the bolts, and D02 discloses an arrangement of contacts which are normally open and separated by a gap (it additionally discloses in figure 6 a double contact arrangement, one of the contacts being normally closed and the other being normally open).

It would be obvious for a person skilled in the art to combine the teachings of these two documents and to modify D01 in such a way that a normally open contact defined by terminals separated by a gap, like in D02, would be closed when exposed to heat or, on the contrary, to provide one of the bolts in D02 with a terminal, and thus to arrive at the subject matter of claim 1, which thus does not involve an inventive step. (The feature "in which this gap is designed as a function of the expansion or deformation coefficients of said bolts and structure" is not taken into account because it does not define the device, as explained in Box VIII.)

Document D03 discloses the geometric design of the valves, once these are joined, as determined by the additional features as per claim 3, and this claim therefore does not involve an inventive step.

D03 additionally discloses valves provided with a plurality of projections arranged in a row on the inner side of the valves, the valves having blind holes into which the bolts are introduced in order to couple the valves, and therefore claims 2 and 4 (combined as explained in Box VIII) do not involve an inventive step.

Both D02 and D05 disclose the conventional practice which consists in using cylindrical bolts with rounded ends, and therefore claim 7 does not involve an inventive step.

Document D04 is an example of the conventional practice which consists of providing an indicator means associated with the sensor element, and therefore claim 8 does not involve an inventive step.

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SUGGESTION: In order to overcome both the formal and substantive objections expressed in this reasoned statement, the examiner suggests redrafting the defining features in a new claim 1 and eliminating the non-defining features, as explained in Box VII, including all the essential features in claims 2, 4, 5 and 10 necessary for the definition of the subject matter of the invention, extending the plastic nature to the valves, structure and bolts.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1

The feature in claim 1 according to which "this gap is designed as a function of the expansion or deformation coefficients of said bolts and structure" does not define (PCT Article 6) the structure of the device, and does not differentiate it from identical devices in which said gap has been designed as a function of other parameters, for example as a function of the coefficients of the terminals, valves, or simply "by rule of thumb".

Additionally, the expression "deformation coefficient" (which is also used in claim 9) is unclear, and it should be clarified whether it refers to the same idea as the expression "expansion coefficient". Moreover, the expression used in claim 9, "in such a way that they react in the same manner when subjected to the same temperature increase" is unclear, since said "manner" is not specified. Moreover, the expression used in claim 10, "obtained from a single moulding by a single moulding process" also does not define the structure of the device. The expression "preferably equidistant" used in claim 2 merely indicates a non-limiting example. The expression used in claim 5, "in which the bolt is rigidly connected to the structure, or is detachable", indicates complementary options which do not limit the subject matter being defined. These expressions have not been taken into account when drafting the reasoned statement in Box V.

Claims 2 and 4 do not per se define the subject matter for which protection is sought, and for this reason they are unclear (PCT Article 6). They should be combined so that

INTERNATIONAL PRELIMINARY EXAMINATION REPORTInternational application No.
PCT/ES 03/00554**VIII. Certain observations on the international application**

the technical rule defined by their features may constitute the solution to the problem addressed (coupling valves).

The dependency expressed as "according to the preceding claims" in claims 3, 4, 7 and 9 is unclear and does not comply with PCT Rule 6.4(a). The claim or claims upon which said claims are dependent should be specified, separated by the conjunctions "and" or "or", as required, or the wording "according to any of the preceding claims" should be used. The dependency expressed in claim 5 ("according to claims 1 and 4) is also confusing. It should be clearly stated whether claim 5 refers only to claim 4 (and implicitly contains the features upon which the latter is dependent) or if it alternatively refers to claim 1 or claim 4.